



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Note to Reader

Background: As part of its effort to involve the public in the implementation of the Food Quality Protection Act of 1996 (FQPA), which is designed to ensure that the United States continues to have the safest and most abundant food supply.

EPA is undertaking an effort to open public dockets on the organophosphate pesticides. These dockets will make available to all interested parties documents that were developed as part of the U.S. Environmental Protection Agency's process for making reregistration eligibility decisions and tolerance reassessments consistent with FQPA. The dockets include preliminary health assessments and, where available, ecological risk assessments conducted by EPA, rebuttals or corrections to the risk assessments submitted by chemical registrants, and the Agency's response to the registrants' submissions.

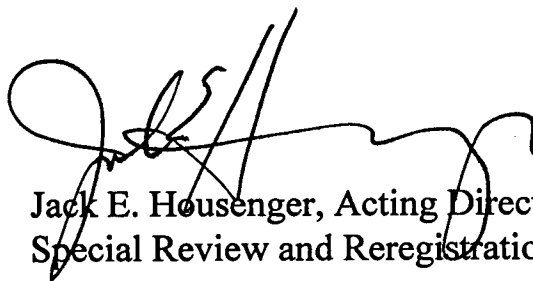
The analyses contained in this docket are preliminary in nature and represent the information available to EPA at the time they were prepared. Additional information may have been submitted to EPA which has not yet been incorporated into these analyses, and registrants or others may be developing relevant information. It's common and appropriate that new information and analyses will be used to revise and refine the evaluations contained in these dockets to make them more comprehensive and realistic. The Agency cautions against premature conclusions based on these preliminary assessments and against any use of information contained in these documents out of their full context. Throughout this process, If unacceptable risks are identified, EPA will act to reduce or eliminate the risks.

There is a 60 day comment period in which the public and all interested parties are invited to submit comments on the information in this docket. Comments should directly relate to this organophosphate and to the information and issues available in the information docket. Once the comment period closes, EPA will review all comments and revise the risk assessments, as necessary.

These preliminary risk assessments represent an early stage in the process by which EPA is evaluating the regulatory requirements applicable to existing pesticides. Through this opportunity for notice and comment, the Agency hopes to advance the openness and scientific soundness underpinning its decisions. This process is designed to assure that America continues to enjoy the safest and most abundant food supply. Through implementation of EPA's tolerance reassessment program under the Food Quality Protection Act, the food supply will become even safer. Leading health experts recommend that all people eat a wide variety of foods, including at least five servings of fruits and vegetables a day.

Note: This sheet is provided to help the reader understand how refined and developed the pesticide file is as of the date prepared, what if any changes have occurred recently, and what new information, if any, is expected to be included in the analysis before decisions are made. **It is not meant to be a summary of all current information regarding the chemical.** Rather, the sheet provides some context to better understand the substantive material in the docket (RED chapters, registrant rebuttals, Agency responses to rebuttals, etc.) for this pesticide.

Further, in some cases, differences may be noted between the RED chapters and the Agency's comprehensive reports on the hazard identification information and safety factors for all organophosphates. In these cases, information in the comprehensive reports is the most current and will, barring the submission of more data that the Agency finds useful, be used in the risk assessments.

A handwritten signature in black ink, appearing to read 'J. Housenger', is written over the typed name and title.

Jack E. Housenger, Acting Director
Special Review and Reregistration Division



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APR 7 1995

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MEMORANDUM

SUBJECT: Chlorpyrifos. Possible Reduction of Residue Studies. Reregistration Case No. 0100 Chemical No. 059101 No MRID # DP Barcode D212580 CBRS #15359

FROM: Steven A. Knizner, Chemist *St A Knizner*
Special Review Section I
Chemistry Branch II - Reregistration Support
Health Effects Division (7509C)

THRU: Andrew Rathman, Section Head *AR*
Special Review Section I
Chemistry Branch II - Reregistration Support
Health Effects Division (7509C)

TO: Dennis McNeilly, PM Team 73
Special Review and Reregistration Division (7508W)

Below find a response to your request for possible studies which DowElanco might conduct in order to refine the acute dietary exposure estimates for chlorpyrifos. You also noted that a market basket survey is already in preparation by the registrant.

Residue Degradation/Reduction Studies

In general, residues degradation/reduction describes any change in the amount and composition of residue of concern from harvest to the point of consumption. Therefore, many types of processes (both physical and chemical) can be grouped under degradation/reduction studies. These processes include storage, commercial processing, washing, peeling, trimming, cooking, waxing and other practices.

Residues degradation/reduction studies should take a treated sample through all of the processes from harvest to consumption and should simulate typical commercial and home practices as closely as possible. Subsamples should be removed at each important point for



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residue determination in the edible portion of the commodity. Residues in the raw agricultural commodities should be well above the analytical method of determination so that the decline in residues can be accurately measured. Analytical methods employed must have sufficiently low limits of detection (LODs) so that an acceptable risk can be estimated using the LOD, considering combined risks from all foods. The Agency strongly encourages submission of study protocols prior to initiation of studies.

In general, residue degradation/reduction studies for representative commodities within a crop group may be sufficient to characterize degradation/reduction within the entire crop group if commercial and home preparation practices are similar for the different commodities.

Special Considerations in Refining Acute Dietary Exposure Estimates

As you have noted, acute dietary exposure to chlorpyrifos is of concern. In order to generate data to refine acute dietary exposure assessments, information concerning the amount of residue in single serving sizes of commodities is most valuable. Therefore, to be most useful, a market basket survey should analyze single servings of commodities. You noted that a market basket survey is already in preparation by the registrant. CBRS encourages the registrant to submit the survey protocol for review prior to commencing the study.

Cooking Studies

Table 1 contains a list of possible cooking studies the registrant could perform to determine reduction of residues. This list was abstracted from Appendix 3 of the latest DRES analysis for chlorpyrifos (memo from T.Chin to D.Edwards, 1/26/95). This list is not all inclusive - Appendix 3 contains a complete list of the food forms on a commodity basis for which data can be specifically introduced in an acute DRES analysis.

Table 1. List of possible cooking studies which the registrant may elect to conduct.

Commodity	Cooking Method*
Apples	Ck
Legumes (Beans/Pean)	Ck
Brassica (Broccoli/Cauliflower/Brussels Sprouts/ Chinese Cabbage)	Bl, Cn
Citrus	Ck, Cn
Corn	Bl, Bk
Eggs	Bl, Bk, F
Legume Vegetables	Ck, Cn

Commodity	Cooking Method ^a
Meat	Bk, Br, Bl, F, Cn
Mushrooms	Ck
Onions (garlic, leeks, shallots)	Bk, Cn
Sweet Potatoes	Ck, Cn
Wheat (rough, germ, bran, flour)	Ck
Soybeans (seeds, flour)	Bl, F, Cn
Rutabagas	Ck
Turnips	Ck
Tomatoes	Ck, Cn
Pumpkin	Bk
Peppers	Ck
Cabbage	Pi
Berries	Ck, Bk, Cn
Peaches	Ck, Cn
Pears	Bk, Cn
Sugar Beets (sugar)	Ck, Bk, Cn
^a Br = Broil, Bk = Bake, Bl = boil, Ck = Cook (method not specified in DRES), Cn = Can, F = fry, Pi = Pickle	

cc: S.F., circ., R.F., Reg. Std. File, S.Knizner, K.Whitby (RCAB), E.Doyle (SAB, DRES)
RDI: A.Rathman, 4/5/95 M.Metzger, 4/6/95 F.Suhre, 4/6/95
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